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JOSEPH A. WALKOWSKI  
TRASK BRITT & ROSSA  
POST OFFICE BOX 2550  
SALT LAKE CITY, UT 84110

EXAMINER

FENTY, JESSE A

ART UNIT

PAPER NUMBER

2815

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/146,851

Applicant(s)

MCQUEEN, MARK

Examiner

Jesse A Fenty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10/05/01.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,9,10,19-24,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9,10,19-24,27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 3-6, 9, 10, 19, 21-24, 27 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Joshi et al. (U.S. Patent No. 5,955,781).

In re claims 1 and 19, Joshi (Fig. 8) discloses a semiconductor device, comprising:

A single contact plug (206) extending through a first barrier layer (244), said single contact plug in electrical communication with an active region (232) on a semiconductor substrate;

An individual contact land (242) disposed atop said single contact plug, and a portion of said first barrier layer, wherein said contact land is wider than said single contact plug and is substantially planar;

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An upper contact (248) extending through a second barrier layer (246), said second barrier layer disposed over said first barrier layer, to form an electrical contact with said individual contact land (242).

In re claims 3 and 21, Joshi (Fig. 8) discloses a semiconductor device, comprising:

An intermediate structure comprising a substrate (210) having at least one thick field oxide area (222), and at least one active area including at least one implanted drain region (230), and at least one implanted source region (232), said intermediate structure further including at least one transistor gate member (238) spanned between said at least one drain region and said at least one source region on said at least one active area;

A first barrier layer (244) substantially covering said at least one field oxide area, said at least one active area, and adjacent said at least one transistor gate member;

At least one drain contact plug (206) extending through said first barrier layer, wherein said at least one drain contact plug is in electrical communication with said at least one drain region on said semiconductor substrate;

At least one source contact plug (206) extending through said first barrier layer, wherein said at least one source contact plug is in electrical communication with said at least one source region on said semiconductor substrate;

An individual drain contact land (242) disposed atop each of said at least one drain contact plugs and a portion of said first barrier layer, said individual drain contact land wider than said at least one drain contact plug and substantially planar;

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An individual source contact land (242) disposed atop each of said at least one source contact plugs and a portion of said first barrier layer, said individual source contact land wider than said at least one source contact plug and substantially planar;

A second barrier layer (246) disposed over said first barrier layer, said individual drain contact land, and said individual source contact land;

At least one upper source contact (248) extending through said second barrier layer, said at least one upper source contact is in electrical communication with at least one of said individual source contact lands and

At least one upper drain contact (248) extending through said second barrier layer, said at least one upper drain contact in electrical communication with at least one of said individual drain contact lands.

In re claims 4 and 22, Joshi discloses the devices of claims 3 and 21 respectively, further comprising drain contact metallization (2<sup>nd</sup> 248, above first 248) in electrical communication with said at least one upper drain contact; and source contact metallization in electrical communication with said at least one upper source contact.

In re claims 5, 6, 9, 10, 23, 24, 27 and 28, Joshi discloses the devices of claims 3 and 21 respectively, wherein said at least one source, drain, upper source and upper drain contact plugs extend between at least two source, drain, upper source and upper drain, regions. Although Joshi does not explicitly show this structure, it is well known in the art, for example, that the view presented in Fig. 8 is a cross section of a transistor structure that not only extends in the X-Y plane as seen on the page, but also in the Z direction, coming out of and going into the page, and

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that such structure includes source, drain, upper source, upper drain as well as gate contact regions connected together to create multi-transistor semiconductor devices.

The preamble to claims 3 and 21 describing the device being used for the dissipation of electrostatic discharges is a statement of the intended use of the device and is not given patentable weight. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the structure of Joshi et al. is identical to that of the claimed invention and it is an apparent that said structure could be used in the same manner as that of the claimed invention.

### ***Response to Arguments***

1. Applicant's arguments filed 10/05/01 have been fully considered but they are not persuasive.
2. Applicant argues that the "local interconnects" (242) relied upon using the Joshi reference are not contact lands for helping reduce problems associated with etch misalignments. This argument is not persuasive, because, not only does applicant not claim the contact lands being used for such misalignments, applicant does not detail a structure in the claims that would enable one skilled in the art to decipher the meaning on "contact lands" from any type of interconnect, plug, or conductive layer which rests upon a barrier layer.

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3. Secondly, the contact land (242) relied upon in the present rejection does lay upon the barrier layer (244), as applied to claims 1, 3 and 21, contrary to applicant's arguments.

4. In regards to the argument concerning claims 4 and 22 that the interconnects (248) are used twice, examiner more clearly points out in the present rejection the two layers of interconnect, each labeled '248' in Figure 8, which combine to anticipated the claimed invention.

5. The rejection of claims 5, 6, 9, 10, 23, 24, 27 and 28 is maintained over the same prior art with a clearer explanation of the previous rejection.

6. Lastly, the reference named Nakamura et al. was mistakenly included in the previous action. The Joshi reference was intended to be used in its place, as the Joshi reference was used in the entire rejection of all the claims; contrarily Nakamura et al. was not used at all.

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A Fenty whose telephone number is 703-308-8137. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-746-3892 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Jesse A Fenty  
Examiner  
Art Unit 2815

JAF  
December 29, 2001

  
EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800